west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345
Phone: 304 926 0475 • Fax: 304 926 0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

MEMORANDUM

To: File

From: Renu Chakrabarty, PE, Engineer

Date: March 9, 2017

Subject: Permit not needed for three emergency generators, G60-C094
Macy's Corporate Services, Inc. 003-00156 Martinsburg, WV

During the review of after-the-fact permit application G60-C094 for three emergency generators at the Macy's Corporate Services, Inc. center in Martinsburg, WV it was determined that no permit is required based on the following:

- All three generators are EPA certified engines, and
- The combined potential to emit from all three engines are below the stationary source emissions threshold; each air pollutant is below 6 lb/hr and 144 lb/day (per 45CSR13.24.b.). The attached spreadsheet summarizes these emissions.

The applicant was notified and submitted a request to withdraw the permit application in a letter dated February 27, 2017 and received on March 9, 2017.

Attachment

Macy's Corporate Services, Inc. (003-00156) Martinsburg, WV

BHP	Emergency Generator	EPA Engine Family	Natural Gas Flow		NO_x			CO			THC (VOC surrogate)			PM-10/2.5			SO_2		
			lb/hr	scf/hr	gm/bhp-hr	lb/hr	lb/year*	gm/bhp-hr	lb/hr	lb/year*	gm/bhp-	lb/hr	lb/year*	lb/10^6 scf	lb/hr	lb/year	lb/10^6 scf	lb/hr	lb/year
151	G100LG2 2011	BGNXB06.82C3	55.87	1,059.6	0.11	0.037	18.31	1.95	0.649	324.57	0.46	0.153	76.57	7.60	0.0081	4.03	0.60	0.0006	0.32
193	G130LG2 2011	BGNXB06.82C3	72.31	1,371.4	0.05	0.021	10.64	0.92	0.391	195.72	0.06	0.026	12.76	7.60	0.0104	5.21	0.60	0.0008	0.41
309	G200LG2 2011	BGNXB13.32C6	112.08	2,125.6	0.1	0.068	34.06	0.78	0.531	265.67	0.28	0.191	95.37	7.60	0.0162	8.08	0.60	0.0013	0.64
Total Point Source						**0.13**	**63.01**		**1.57**	**785.97**		**0.37**	**184.70**		**0.03**	**17.31**		**0.00**	**1.37**
						3.02	**lb/day**		**37.73**	**lb/day**		**8.87**	**lb/day**		**0.83**	**lb/day**			

500 hr/yr for emergency generators per EPA policy

All are verified to be certified engines per EPA spreadsheets.

NOx, CO, THC factors from Olympian 2011 EPA Cerrtified Gas Industrial Generators (non-California Units) sheet in application.

PM, SO2 factors from AP-42

Converting from lb natural gas to SCF volume

MW natural gas = 20 lb/lbmole

ideal gas law conversion factor = 379.3 scf/lbmole

https://hy-bon.com/blog/convert-vent-gas-volume-to-mass-and-mass-to-volume/

Vol (SCF) = [(## lb natural gas)*(379.3 scf/lbmole)]/MW lb/lbmole